REMARKS

In the non-final Office Action, the Examiner rejects claim 1 on the grounds of nonstatutory obviousness-type double patenting as unpatentable over claim 1 of copending Application No. 10/084,917; rejects claims 27-29 under 35 U.S.C. § 102(e) as anticipated by SHINOMIYA et al. (U.S. Patent Application Publication No. 2003/0037165); rejects claims 1, 4-22, 30, and 31 under 35 U.S.C. § 103(a) as unpatentable over ALFIERI et al. (U.S. Patent No. 7,039,720) in view of LEUNG et al. (U.S. Patent No. 6,985,479); rejects claims 23, 24, and 26 under 35 U.S.C. § 103(a) as unpatentable over SHINOMIYA et al. in view of CLARK et al. (U.S. Patent No. 6,442,588); and rejects claim 32 under 35 U.S.C. § 103(a) as unpatentable over ALFIERI et al. in view of SHINOMIYA et al. Applicant respectfully traverses these rejections.[1] Claims 1, 4-24, and 26-32 remain pending.

Claim 1 stands rejected on the grounds of nonstatutory obviousness-type double patenting as unpatentable over claim 1 of U.S. Patent Application No. 10/084,917 to WANG. Applicant respectfully traverses this rejection.

In particular, the Examiner alleges:

> [a]lthough the conflicting claims are not identical, they are not patentably distinct from each other because both applications recite a router system comprising: a plurality of virtual routers one resource shared by the plurality of virtual routers with the only difference between claim 1 of the instant application and claim 1 of the copending Application being that claim 1 of the instant Application recite a resource allocator configured to

[1] As Applicant's remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicant's silence as to assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, motivation to combine references, assertions as to dependent claims, etc.) is not a concession by Applicant that such assertions are accurate or such requirements have been met, and Applicant reserves the right to analyze and dispute such assertions/requirements in the future.

> control access to the at least one resource while the copending Application does not anticipate such limitation. Therefore, it would have been obvious to one of ordinary skill in the art to implement the invention of the instant application using resource allocator in order to be able control bandwidth, thus enhancing efficiency. This is a provisional double patenting rejection since the conflicting claims have not yet been patented

(Office Action, pp. 2-3). Applicant respectfully disagrees with the Examiner's allegations.

Claim 1 of the present application is directed to a router system that includes a plurality of virtual routers, where at least one virtual router of the plurality of virtual routers is configured to operate as a backbone router and at least one other virtual router of the plurality of virtual routers is configured to operate as a regional router; at least one resource shared by the plurality of virtual routers; and a resource allocator configured to control access to the at least one resource by the plurality of virtual routers. In contrast, claim 1 of WANG is directed to a routing system that includes a plurality of routing resources; and a plurality of virtual routers configured to share the routing resources in accordance with a programmably modifiable resource sharing configuration.

Applicant submits that claim 1 of the present application is not obvious in light of claim 1 of WANG. For example, claim 1 of WANG does not recite a plurality of virtual routers, where at least one virtual router of the plurality of virtual routers is configured to operate as a backbone router and at least one other virtual router of the plurality of virtual routers is configured to operate as a regional router, or a resource allocator configured to control access to the at least one resource by the plurality of virtual routers. These features are not obvious in light of claim 1 of WANG. The Examiner's allegations fall short of establishing a proper case of obviousness-type double patenting.

For at least the foregoing reasons, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claim 1 under the nonstatutory grounds of obviousness-type double patenting.

Claims 27-29 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by SHINOMIYA. Applicant respectfully traverses this rejection.

A proper rejection under 35 U.S.C. § 102 requires that a single reference teach every aspect of the claimed invention. Any feature not directly taught must be inherently present. In other words, the identical invention must be shown in as complete detail as contained in the claim. See M.P.E.P. § 2131. SHINOMIYA does not disclose or suggest the combination of features recited in claims 27-29.

For example, independent claim 27 is directed to a router system that includes a plurality of virtual routers configured to share at least one resource, each of the plurality of virtual routers being associated with a router profile that defines a security level and resource sharing priority for the virtual router; a resource-shared information base configured to maintain the at least one resource; and a resource allocator configured to receive a request for access to the at least one resource and grant access to the at least one resource to one of the plurality of virtual routers based on the security level and resource sharing priority associated with the one virtual router. SHINOMIYA does not disclose or suggest this combination of features.

For example, SHINOMIYA does not disclose or suggest a plurality of virtual routers configured to share at least one resource, where each of the plurality of virtual routers is associated with a router profile that defines a security level and resource

sharing priority for the virtual router. The Examiner relies on paras. 0043 and 0045 of SHINOMIYA for allegedly disclosing the above features (Office Action, pp. 3-4). Applicant respectfully disagrees with the Examiner's interpretation of SHINOMIYA.

At para. 0043, SHINOMIYA discloses:

> In FIG. 1, a drawing illustrating an outline of VRRP is shown. As shown in this figure, a plurality of end systems 1-1 to 1-4 such as personal computers are connected to a virtual router 3 through a hub (or switching hub) 2. The VRRP is applied to such a system. Virtual router 3 is constituted by a plurality of routers (A) 3-1 and (B) 3-2 to be coupled to other networks. Fault tolerant capability is achieved by switching a working router, for example, from router 3-1 to router 3-2 instantly in the event of a fault.

This section of SHINOMIYA, which corresponds to Fig. 1, discloses a system that includes a single virtual router 3, which includes a first router 3-1 and a second router 3-2. This section of SHINOMIYA does not disclose or suggest a plurality of virtual routers, as recited in claim 27. Therefore, this section of SHINOMIYA cannot disclose or suggest a plurality of virtual routers configured to share at least one resource, where each of the plurality of virtual routers is associated with a router profile that defines a security level and resource sharing priority for the virtual router, as recited in claim 27.

At para. 0045, SHINOMIYA discloses:

> On the other hand, in a system where VRRP is introduced, a priority is assigned in each router 3-1, 3-2. Here, higher priority is assigned to the router which is given a real address identical to the IP address of virtual router 3. This router functions as a master router performing real routing processing. As an example, it is assumed that router has high priority, and therefore is assigned as a default master router.

This section of SHINOMIYA discloses a system in which each router 3-1 and 3-2 within a virtual router 3 is assigned a priority. This section of SHINOMIYA does not disclose

or suggest a plurality of virtual routers, as recited in claim 27. Therefore, this section of SHINOMIYA cannot disclose or suggest a plurality of virtual routers configured to share at least one resource, where each of the plurality of virtual routers is associated with a router profile that defines a security level and resource sharing priority for the virtual router, as recited in claim 27.

In response to the above arguments, the Examiner alleges:

> that Shinomiya discloses a plurality of virtual routers Page 2, column 2, Paragraph [0043 ; routers A and B are inherent in the virtual router 3 of Fig. 1] configured to share at least one resource, where each of the plurality of virtual routers Page 2 Page 2, column 2, Paragraph [0043] associated with a router profile that defines a security level and resource sharing priority for the virtual router (lines 1-14 of the abstract; the claimed security level and priority sharing are inherent in Authentication data of Fig. 10A; Authentication is a security level indicator)

(Office Action, pp. 10-11). Applicant respectfully disagrees with the Examiner's allegations.

Initially, Applicant notes that SHINOMIYA specifically discloses that virtual router 3 includes routers A and B, which are physical routers that make up virtual router 3 (see, for example, para. 0043). SHINOMIYA does not disclose or suggest that routers A and B are virtual routers. The Examiner's allegation that routers A and B are inherent in virtual router 3 does not address the above feature of claim 27.

In the Abstract, SHINOMIYA discloses:

> To provide a load sharing system using a virtual router facilitating dynamic load distribution. The load sharing system includes a plurality of equipment units each functioning as a router which constitutes a virtual router having a single common address; and end systems being connected to the network through the virtual router. Among the plurality of routers constituting the virtual router, one equipment unit functioning as a router is assigned as a master router, while the other equipment unit(s) is

> assigned as a backup router. The master router dynamically allocates packet condition for defining the routing object to each router, then to advertise to the backup router. Routing processing between the network and the end system is performed by the plurality of routers each having a routing function.

This section of SHINOMIYA discloses a virtual router that includes a plurality of equipment units, where one equipment unit functions as a master router and the other equipment unit is assigned as a backup router. Contrary to the Examiner's allegations, this section of SHINOMIYA does not disclose or suggest a plurality of virtual routers configured to share at least one resource, where each of the plurality of virtual routers is associated with a router profile that defines a security level and resource sharing priority for the virtual router, as recited in claim 27.

Fig. 10A of SHINOMIYA depicts the contents of an allocation packet (see para. 0117). This figure of SHINOMIYA in no way discloses or suggests a plurality of virtual routers configured to share at least one resource, where each of the plurality of virtual routers is associated with a router profile that defines a security level and resource sharing priority for the virtual router, as recited in claim 27.

For at least the foregoing reasons, Applicant submits that claim 27 is not anticipated by SHINOMIYA.

Claims 28 and 29 depend from claim 27. Therefore, these claims are not anticipated by SHINOMIYA for at least the reasons given above with respect to claim 27.

Claims 1, 4-22, 30, and 31 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over ALFIERI et al. in view of LEUNG et al. Applicant respectfully submits that this rejection is improper.

The present application was filed on March 1, 2002. The LEUNG et al. reference has an effective filing date of March 4, 2002, which is after the filing date of the present application. Thus, the LEUNG et al. reference is not prior art with respect to the present application. This fact was provided to the Examiner in Applicant's Request for Reconsideration, filed September 27, 2006. It is unclear why the Examiner continues to rely on LEUNG et al. in rejecting Applicant's claims.

Applicant submits that the disclosure of ALFIERI et al. does not disclose or suggest the combination of features recited in claims 1, 4-22, 30, and 31, as the Examiner admits in the Office Action (Office Action, pg. 5).

For at least the foregoing reasons, Applicant respectfully submits that claims 1, 4-22, 30, and 31 are patentable over ALFIERI et al.

Claims 23, 24, and 26 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over SHINOMIYA in view of CLARK et al. Applicant respectfully traverses this rejection.

Independent claim 23 is directed to a method, in a router system, for controlling allocation of a group of shared resources by a plurality of virtual routers. The method includes receiving a request for allocation of one of the shared resources from at least one of the plurality of virtual routers, the request including security information and priority information; determining whether the request is authentic based on the security

information; and granting the request when the request is authentic and based on the priority information. SHINOMIYA and CLARK et al., whether taken alone or in any reasonable combination, do not disclose or suggest this combination of features.

For example, SHINOMIYA and CLARK et al. do not disclose or suggest receiving a request for allocation of one of the shared resources from at least one of the plurality of virtual routers, the request including security information and priority information. The Examiner appears to rely on the Abstract, lines 1-7, para. 0043, and Fig. 10B of SHINOMIYA for allegedly disclosing the above feature of claim 23 (Office Action, pg. 8). Applicant respectfully disagrees with the Examiner's interpretation of SHINOMIYA.

In the Abstract, lines 1-10, SHINOMIYA discloses:

> To provide a load sharing system using a virtual router facilitating dynamic load distribution. The load sharing system includes a plurality of equipment units each functioning as a router which constitutes a virtual router having a single common address; and end systems being connected to the network through the virtual router. Among the plurality of routers constituting the virtual router, one equipment unit functioning as a router is assigned as a master router, while the other equipment unit(s) is assigned as a backup router.

This section of SHINOMIYA discloses end systems that are connected to a network through a virtual router. This section of SHINOMIYA does not disclose or suggest a plurality of virtual routers, as recited in claim 23. Thus, this section of SHINOMIYA cannot disclose or suggest receiving a request for allocation of one of the shared resources from at least one of the plurality of virtual routers, where the request includes security information and priority information, as recited in claim 23.

Para. 0043 of SHINOMIYA is reproduced above. This section of SHINOMIYA, which corresponds to Fig. 1, discloses a system that includes a single virtual router 3, which includes a first router 3-1 and a second router 3-2. This section of SHINOMIYA does not disclose or suggest a plurality of virtual routers, as recited in claim 23. Therefore, this section of SHINOMIYA cannot disclose or suggest receiving a request for allocation of one of the shared resources from at least one of the plurality of virtual routers, where the request includes security information and priority information, as recited in claim 23.

Fig. 10B of SHINOMIYA depicts the contents of an allocation confirmation packet (see para. 0115). This figure of SHINOMIYA in no way discloses or suggests receiving a request for allocation of one of the shared resources from at least one of the plurality of virtual routers, where the request includes security information and priority information, as recited in claim 23.

In response to the above arguments, the Examiner alleges:

> that Shinomiya discloses or suggests a plurality of virtual routers (routers A and B virtual routers inherent in virtual router 3 of Fig. 1) and also disclose or suggest receiving a request for allocation of the shared resources from ay least one of the plurality of virtual routers (lines 1-8 of the abstract), where the request include priority information (the claimed priority information is contained the Allocation Packet 31 of Fig. 10A). Clark from the same field of endeavor discloses the claimed security information (column 6, lines 20-40), hence the combination of Shinomiya and Clark is proper

(Office Action, pg. 11). Applicant respectfully disagrees with the Examiner's allegations.

Initially, Applicant notes that SHINOMIYA specifically discloses that virtual router 3 includes routers A and B, which are physical routers that make up virtual router

3 (see, for example, para. 0043). SHINOMIYA does not disclose or suggest that routers A and B are virtual routers. The Examiner's allegation that routers A and B are inherent in virtual router 3 does not address the above feature of claim 23.

The Abstract of SHINOMIYA is reproduced above. This section of SHINOMIYA discloses a virtual router that includes a plurality of equipment units, where one equipment unit functions as a master router and the other equipment unit is assigned as a backup router. Contrary to the Examiner's allegations, this section of SHINOMIYA does not disclose or suggest receiving a request for allocation of one of the shared resources from at least one of the plurality of virtual routers, where the request includes security information and priority information, as recited in claim 23.

Fig. 10A of SHINOMIYA depicts the contents of an allocation packet (see para. 0117). This figure of SHINOMIYA in no way discloses or suggests receiving a request for allocation of one of the shared resources from at least one of the plurality of virtual routers, where the request includes security information and priority information, as recited in claim 23.

The disclosure of CLARK et al. does not remedy the above deficiencies in the disclosure of SHINOMIYA. In fact, the CLARK et al. disclosure does not even mention a virtual router.

For at least the foregoing reasons, Applicants submit that claim 23 is patentable over SHINOMIYA and CLARK et al., whether taken alone or in any reasonable combination.

Claims 24 and 26 depend from claim 23. Therefore, Applicant submits that claims 24 and 26 are patentable over SHINOMIYA and CLARK et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 23.

Claim 32 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over ALFIERI et al. in view of SHINOMIYA. Applicant respectfully submits that this rejection is improper.

Claim 32 depends from claim 31. The Examiner rejects claim 31 under 35 U.S.C. § 103(a) as unpatentable over ALFIERI et al. in view of LEUNG et al. Thus, any rejection of claim 32 must be based on at least ALFIERI et al. and LEUNG et al. Since the Examiner does not rely on LEUNG et al. in the rejection of claim 32, Applicant submits that the rejection of claim 32 is improper.

Even assuming that the Examiner properly rejects claim 32 based on ALFIERI et al., LEUNG et al., and SHINOMIYA, the LEUNG et al. reference, as set forth above, is not prior art with respect to the present application.

Applicant submits that the disclosure of SHINOMIYA does not remedy the deficiencies in the disclosure of ALFIERI et al. set forth above with respect to claim 31. Therefore, Applicant submits that claim 32 is patentable over ALFIERI et al. and SHINOMIYA, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 31.

For at least the foregoing reasons, Applicant respectfully submits that claim 32 is patentable over ALFIERI et al. and SHINOMIYA, whether taken alone or in any reasonable combination.

In view of the foregoing remarks, Applicant respectfully requests the Examiner's reconsideration of this application, and the timely allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

HARRITY SNYDER, L.L.P.

By: /John E. Harrity/
John E. Harrity
Registration No. 43,367

Date: April 19, 2007

11350 Random Hills Road
Suite 600
Fairfax, Virginia 22030
(571) 432-0800

Customer Number: 25537